

## Claims

1. A packet radio system comprising:  
a digital mobile communication network (BTS, BSC,  
5 MSC);  
packet data terminal equipments (MS);  
packet radio support nodes (SGSN) connected to the  
mobile communication network which provides them with a  
radio interface for packet switched data transmission with  
10 the packet data terminal equipments;  
gateway packet radio support nodes (GGSN) providing  
an access point to an external packet data network (15);  
and  
an internal packet switched backbone network (13)  
15 to which the packet radio support nodes (SGSN) and the  
gateway packet radio support nodes (GGSN) are connected,  
c h a r a c t e r i z e d by  
a billing gateway support node (BGGSN), connected  
to said internal backbone network (BGGSN) to receive user-  
20 specific charging information collected by the other  
support nodes (SGGSN, GGSN) and to forward the charging  
information to the charging system.
2. A method as claimed in claim 1,  
c h a r a c t e r i z e d in that the communication  
25 protocol between the billing gateway support node (BGGSN),  
the packet radio support nodes (SGGSN) and the gateway  
packet radio support nodes (GGSN) is a packet switched  
communication protocol of said internal backbone network.
3. A method *as claimed in claim 1* ~~as claimed in claim 1 or 2~~,  
30 c h a r a c t e r i z e d in that the communication  
protocol between the billing gateway support node (BGGSN),  
the packet radio support nodes (SGGSN) and the gateway  
packet radio support nodes (GGSN) is independent of a  
communication protocol between the gateway support node  
35 and the charging system.

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4. A packet radio network as claimed in <sup>claim 1</sup> ~~claim 1, 2 or 3~~, characterized in that the communication protocol between the billing gateway support node (BGGSN) and the charging system is different from a packet switched communication protocol of said internal backbone network.

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5. A packet radio network <sup>as claimed in claim 1</sup> ~~as claimed in any one of the previous claims~~, characterized in that the billing gateway support node (BGGSN) is provided with a direct connection to the billing system.

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6. A packet radio network as claimed in <sup>claim 1</sup> ~~any one of claims 1-5~~, characterized in that the billing gateway support node (BGGSN) is connected to the billing system via an intermediate network, such as an intelligent network, or via an intermediate network element, such as a mobile services switching center (MSC).

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7. A packet radio network as claimed in <sup>claim 1</sup> ~~any one of the previous claims~~, characterized in that the address of the billing gateway support node (BGGSN) to which the other support nodes send charging information is fixed.

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8. A packet radio network as claimed in <sup>claim 1</sup> ~~any one of claims 1-6~~, characterized in that the address of the billing gateway support node (BGGSN) to which the other support nodes send charging information is dynamic.

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9. A packet radio network as claimed in claim 8, characterized in that the address of the billing gateway support node (BGGSN) to which the other support nodes send charging information is subscriber-specific and is given to the respective other support node when the subscriber begins using a service.

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10. A packet radio network as claimed in <sup>8</sup> ~~claim 8 or 9~~, characterized in that the support nodes are arranged to send the charging information to the billing gateway support node (BGGSN) of the subscriber's home

